2006 Annual Report of Montana's Nonpoint Source Management Program

by
Montana Department of Environmental Quality
Planning, Prevention and Assistance Division
Water Quality Planning Bureau

MONTANA VISION STATEMENT: Water quality will be restored and protected through the implementation of voluntary best management practices identified in science based, community supported watershed plans.

NPS HIGHLIGHTS OF THE YEAR 2006

New staff/positions assigned to strategic roles in the development of the necessary tools needed to meet priority goals.

The Water Quality Monitoring Section completed the reassessment of 497 waters, and continued to expand the monitoring of lakes and reference sites.

The Watershed Protection Section worked on updating the 2001 NPS Management Plan. Significant stakeholder input was obtained in developing the draft update. The draft Plan provides more specific objectives and actions geared towards on the ground implementation.

The 2006 303(d) and 305(b) Integrated Report Water Quality Report was completed and submitted to EPA on December 7, 2006. Additionally, the 2006 IR contains a fully developed State Water Quality Atlas (305(b) Report), the first such report provided by the state since 1998.

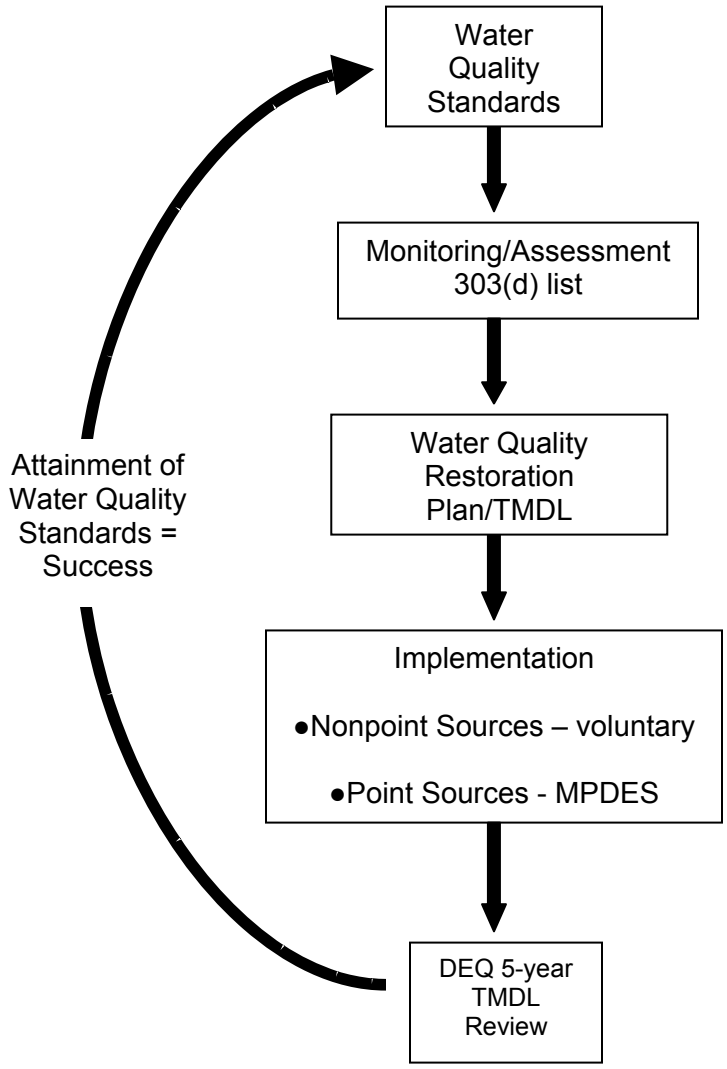
The Clean Water Act Information Center or CWAIC was established. CWAIC is the DEQ's public access clearinghouse for information on federal and state mandated 305(b)/303(d) water quality reports, public comment, water quality laws, and Montana's water quality programs. http://www.deq.mt.gov/CWAIC/default.aspx

In 2006, the Water Quality Planning Bureau closed out 42 319 grants in TMDL planning, restoration, groundwater and information & education projects. Since 1995, Montana has a balance of 22% remaining of 319 funds awarded; one of the lowest balance's in the nation.

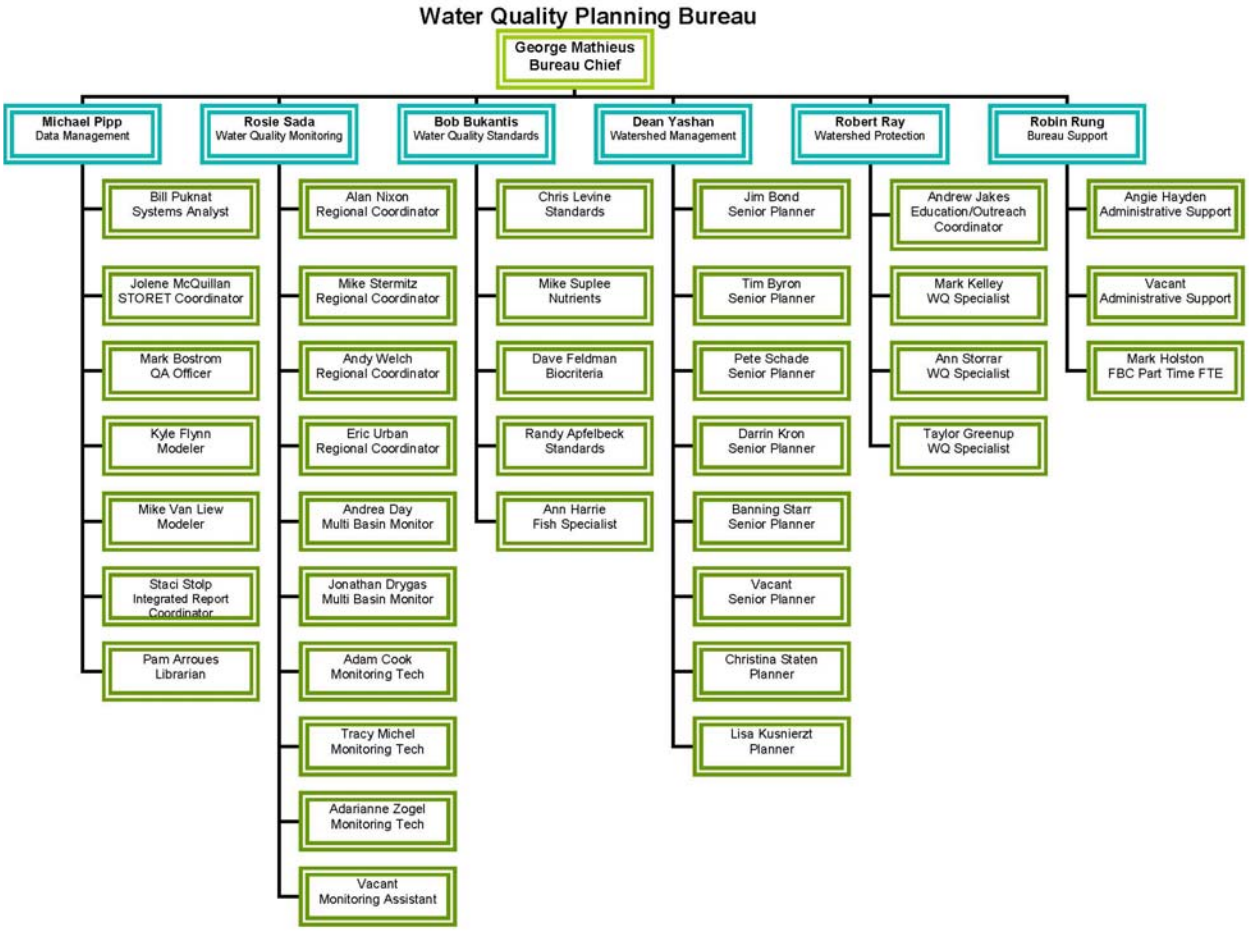
PART 1. WATER QUALITY PLANNING BUREAU OVERVIEW

Section 319 of the Clean Water Act requires states to: 1) assess water bodies for nonpoint source (NPS) impacts, 2) develop nonpoint source management programs, 3) implement those programs, and 4) report on nonpoint source implementation to the public and to the U.S. Environmental Protection Agency (EPA). This report is Montana's 2006 annual report.

By the end of 2006, the Watershed Protection Section was fully operational with many vacancies filled throughout the Bureau. Presently, five sections are operating as one unit, which are all contributing to attaining and maintaining water quality standards. The Bureau is focusing on near, short-term and long-term goals, with priorities focusing on court-order and consent decree requirements. The below Figure illustrates how the fully operational bureau will assess and address water quality needs.



The following Figure displays new positions and staff and how they fit into the overall bureau.



PART 2. WATER QUALITY PLANNING BUREAU UPDATE

2.1 WATER QUALITY STANDARDS SECTION

2.1.1 NUTRIENTS

MDEQ has continued making progress in development of numeric nutrient water quality standards. Highlights for 2006 include:

- Completion of a statewide opinion survey to quantify nuisance amounts of algal growth in streams based on public perception. The results of this work will help refine impact thresholds for the recreational beneficial use and, in turn, resulting numeric nutrient criteria.
- Development of a plan to identify and gather data to fill reference site data gaps. Addition of this data to our data base will help strengthen nutrient standards by increasing our understanding of reference conditions.

- Development of a plan to model nutrient effects on dissolved oxygen and nuisance algae growth in large rivers to develop the technical basis for nutrient standards in Montana's large rivers. The plan targets a segment of the lower Yellowstone River.
- Continued progress in development of implementation procedures for numeric nutrient standards for wadeable streams taking into account the economics of waste treatment.

2.1.2 BIOCRITERIA

Periphyton:
Periphyton metrics that specifically assess nutrient, sediment and metals impacts to wadeable streams were developed in 2005. In 2006, further analysis showed that greater spatial stratification is needed to accurately apply the metrics. That is, the initial stratification in 2005 (mountainous vs. prairie regions of the state) was too coarse. As a result, DEQ currently has functioning diatom metrics only in the Middle Rockies level-III ecoregion. Additional data collection, needed to develop metrics for the other level-III ecoregions has begun (starting in the Northern Rockies).

Macroinvertebrates:
We integrated our two recently-developed macroinvertebrate assessment models into our water quality assessment procedures. We also continued refinement of these tools in 2006, including funding, with EPA, two studies for both macroinvertebrate assessment models. Jessup and Hawkins (2007) explored how different environmental gradients and macroinvertebrate sampling approaches influence model results. This study included a post-hoc analysis and recommendations for further refinements to help reduce these influences and improve model result interpretation. Stribling et al. (2007) analyzed replicate samples to define macroinvertebrate sampling protocol and assessment error. We will use the results of this study to separate environmental variability from method variability in method refinement and quality control for monitoring programs.

2.1.3 OTHER WATER QUALITY STANDARDS UPDATES

We completed a major triennial review of Montana's water quality standards in 2006, including incorporating EPA's latest fish consumption guidelines for adopted 304(a) criteria, and replacing fecal coliform bacteria standards with the adoption of E. coli standards.

2.2 Water Quality Monitoring Section

In 2006, the Water Quality Monitoring Section focused on the following projects:

2.2.1 Reassessment Monitoring

DEQ's primary focus was to assess all of the waters listed on the 2000 303(d) Reassessment list (DEQ 2000). These waters were removed from the 1998 303(d) list of impaired waters due to a lack of sufficient credible data. A total of 497 water bodies were on the 2000 303(d) Reassessment list. Assessments were reflected in the 2006 Water Quality Integrated Report.

2.2.2 Reference Site Monitoring

This project uses a targeted design for areas lacking reference sites and areas within BLM lands. The WQPB works cooperatively with the University of Montana (UM) to conduct the field sampling. The main objectives of this project are to: establish a network of reference sites; define reference conditions for use in assessments; help in the establishment of TMDL endpoints, and aid in the development of water quality standards. This project has been on-going since 2000 to present. A total of 100 sites (both existing ones and candidates) have been assessed three times per year across Montana. In 2006, a total of 18 sites were sampled three times per summer in southeastern MT. Protocols used in the reference project are described in the Quality Assurance Plan Reference Addendum (DEQ 2005a).

In 2005, a screening process was developed that uses both watershed and site-specific data to assess overall quality of the reference sites. In this screening process, a balance is made between the relative importance of site-specific impacts (e.g., heavily grazed riparian area) and watershed-level impacts (e.g., extensive timber harvest upstream of the site). Sites that pass through the screening process are considered final reference sites. The process and the reference site descriptions are described in detail in Suplee et al. 2005.

2.2.3 Lakes and Reservoirs Monitoring

The main objectives of this project are to: refine water quality standards for lakes, including the development of a lake and reservoir classification system; assess beneficial use attainment of lakes; and provide data for analysis of trends and monitor effectiveness of any TMDL efforts. The data-collection effort has been on-going since 2003. The WQPB works cooperatively with UM to conduct the field sampling. The sampling effort focused on collecting data from "reference" lakes (approximately 15 annually) Standard lake sampling is as follows: One mid-lake site is sampled, with the exception of larger reservoirs where two sites are sampled. Three sampling events occur between June and September. Further details on the protocols can be found in the Quality Assurance Plan Lakes Addendum (DEQ 2005b).

2.2.4 Large Rivers Monitoring

The main objective of the Large Rivers Monitoring Project is to examine current protocols for the assessment of large rivers and to evaluate the approaches used nationwide. In 2006, EPA's Montana field office and DEQ, with contractor support, evaluated the approaches being used nationally to interpret large river data such as literature values, reference reach approach, exposure-response, and modeled expectations relative to nutrients, sediment, temperature, and aquatic life. A consistent definition for large rivers (e.g., Strahler order, watershed size, etc) and a recommended approach will be developed. A small-scale pilot study will then be implemented for validation and testing purposes for statewide application.

2.3 Watershed Management Section

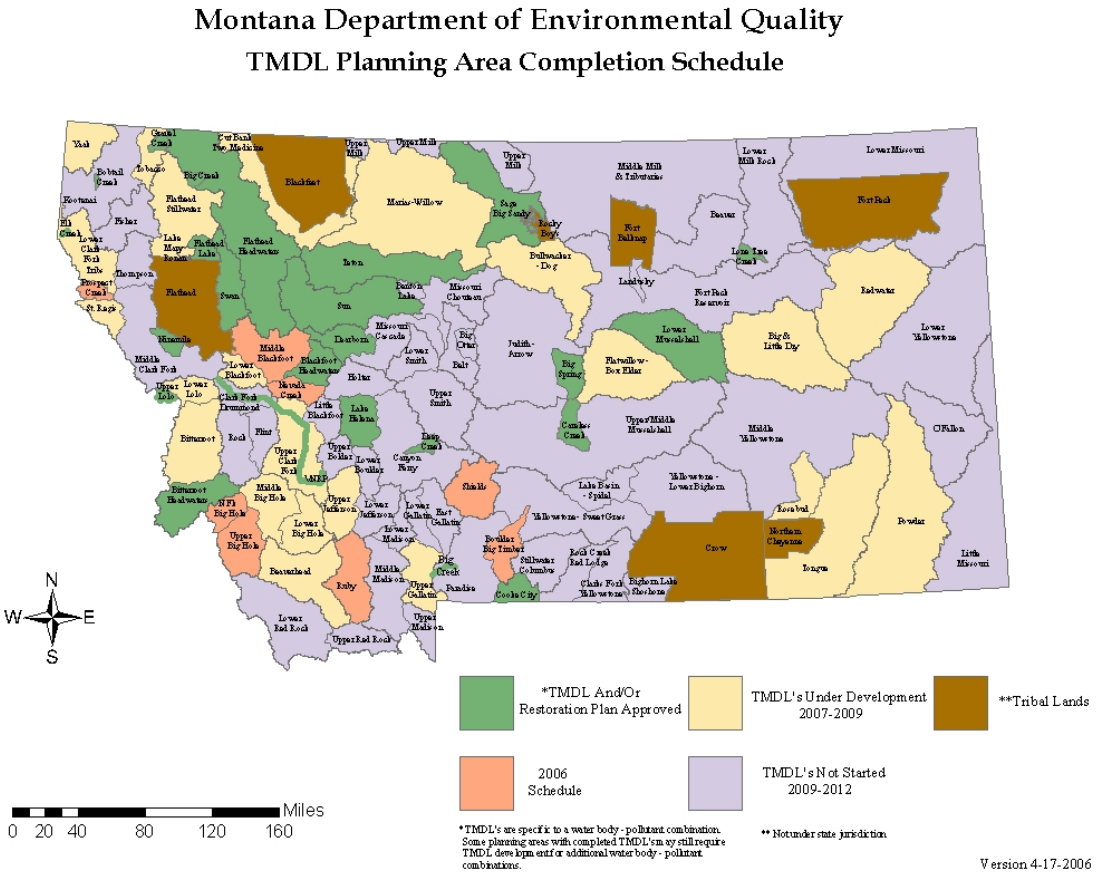
In 2006, Montana used the watershed approach to prioritize planning for water quality restoration in the state's 90 TMDL planning areas. The TMDL planning schedule fulfills a federal court order stating "all necessary TMDL's" must be completed by 2012. Montana's schedule for TMDL development was revised in accordance with the Settlement Agreement entered by the parties in Friends of the Wild Swan et al., v. EPA et al., CV 97-35-M-DWM. The following website summarizes information on all approved water quality plans and TMDL's:
http://www.deq.mt.gov/wqinfo/TMDL/index.asp

Watersheds with TMDLs completed in 2006 were: Lake Helena, Prospect Creek- metals and Ruby.

Existing TMDL planning areas with ongoing focused planning efforts include: Middle Blackfoot, Nevada Creek, Lower Blackfoot (Subwatersheds Arrastra Creek and Hoyt Creek), Upper Big Hole, North Fork Big Hole, Middle Big Hole, Lower Big Hole, St. Regis, Upper Jefferson, Flint Creek, Redwater, Tobacco, Lower Clark Fork Tributaries, Cut Bank/Two Medicine, Prospect Creek– sediment, Upper Clark Fork, Flathead/Stillwater (Subwatersheds Ashley Creek, Whitefish Lake/Swift Creek, Whitefish River, Haskill Creek, Stillwater River), Boulder/Big Timber, Yaak, Upper Gallatin, Lower Gallatin, East Gallatin, Shields, Beaverhead, Tongue, Powder and Rosebud.

In 2006 a standard outline was developed for Water Quality Restoration Plan watershed characterizations, to provide a consistent approach for TMDL planning area characterizations. A standard scope of work, template, and process for the compilation of existing water quality data and source quantification/assessment data was also developed for initial TMDL watershed planning work.

The figure below shows the 2006 annual Water Quality Restoration and TMDL Planning Schedule.



2.3.1 Success Story: Elk Creek Restoration Project

Elk Creek is a water quality impaired (habitat alterations and thermal modifications) Section 303d listed tributary to the Lower Clark Fork River (LCF) near the town of Heron, MT. The project, identified as the number one priority restoration site by the Elk Creek Watershed Council, and funded entirely by 319 Grant funding, proposed to reduce fine sediment delivery to the channel, increase aquatic habitat diversity, and augment the riparian vegetation community over approximately 1,500 ft of channel. River Design Group was selected to design and supervise the project.

Fine sediment delivery reduction was carried out by constructing a woody debris jam at the toe of the eroding terrace. The jam deflects flows away from the toe of the slope and also provides fish habitat. A portion of the slope above the bankfull elevation was sloped to the angle of repose, similar to upstream portions of the terrace.

In addition to the large woody debris jam, two other wood habitat arrays were placed in the project area to promote local channel scour and aquatic habitat formation. Arrays were built using numerous pieces of rootwads and tree trunks and were anchored into the bank by excavating trenches and backfilling. Large rock already located on-site will also be used to anchor the logs in the bank.

The project area was also revegetated with willow cuttings and containerized stock to include willows, red osier dogwood, and other native species.

Stabilizing the eroding terrace, placing large woody debris arrays, and planting vegetation in the Platt project area is expected to reduce fine sediment delivery and improve aquatic habitat diversity in the reach.

To monitor the project, an existing conditions survey was completed in June 2006 and an as-built survey was completed following restoration work in the fall of 2006. An as-built survey will be completed following spring runoff in 2007. This information will be used for estimating sediment loading to Elk Creek and the effects of bank erosion on sediment loads for the Elk Creek sediment total maximum daily load (TMDL). River Design Group estimates that the project will reduce sediment delivery by approximately 60.5 tons/year.

In 2006, The Lower Clark Fork Watershed Group worked on various restoration projects, including the Elk Creek Restoration Project. Five separate restoration projects were conducted, with funding totaling $176,216 in construction costs alone. Seven different entities contributed to funds to include federal and state agencies as well as private industry and local communities.

2.4 Watershed Protection Section

A full discussion of the Water Quality Planning Bureau's activities related to implementing objectives and actions of the 2001 Nonpoint Source Management Plan is found in "Part 3: Implementation of NPS Objectives" of this report. Montana's 2001 Nonpoint Source Management Plan can be accessed at the DEQ website: http://www.deq.mt.gov/wqinfo/nonpoint/NonpointPlan.asp

A few 2006 highlights for the Section are listed below:

- In June of 2006, the Watershed Protection Section was fully staffed.
- Throughout 2006 work continued on updating the current 2001 Montana Nonpoint Source Management Plan.
- Awarded and managed $410,265 in new 319 grants.
- DEQ's Nonpoint Source Program Manager attended the National NPS Coordinator's Meeting in Park City, Utah.
- Developed and implemented a simplified "Mini-Grants" program managed by the Section Education and Outreach Coordinator.

2.5 Data Management Section

2.5.1 Data Management & CWA Reporting Program

- The 2006 303(d) and 305(b) Integrated Report Water Quality Report was completed and submitted to EPA on December 7, 2006. The report includes reassessments of waterbodies previously not having sufficient credible data but listed on the 1998 303(d) list (474 waterbody segments). Additionally, the 2006 IR containes a fully developed State Water Quality Atlas (305(b) Report), which is the first such report provided by the state since 1998.
- The Clean Water Act Information Center (CWAIC) was established and replaced the Environet water quality information site. CWAIC is the DEQ's public access clearinghouse for information on federal and state mandated 305(b)/303(d) water quality reports, public comment, water quality laws, and Montana's water quality programs. http://www.deq.mt.gov/CWAIC/default.aspx
- Provided on-going technical assistance to users on STORET data formatting and access, as well as for external data partners/providers on use of the WebSIM application.
- Developed a relational database management system to replace previous system of disparate Excel spreadsheet files to manage water quality assessments. The new system, **W**ater Quality **A**ssessment, **R**eporting, and **D**ocumentation system (WARD) went into production in December 2006. The WARD system is integrated with the program's new Library database.
- Developed a database management system for the bureau's contracts. The Contracts Database provides the Bureau a mechanism for better contract management at the task level and also provides a way for answering many different questions regarding the contracts we manage.

2.5.2 Water Quality & Watershed Modeling Program

- Modeling has become an important component of the State's TMDL development projects. The Data Management Section provided modeling supporting in 2006 in the following areas: Bitterroot River nutrients and temperature; Blackfoot River nutrients and temperature; Flathead Lake nutrients and temperature; Big Hole River temperature; and the Tobacco River nutrients and temperature. Models include SWAT and LSPC for watershed loading models, QUAL2K for 1-D nutrient and temperature models, SHADOW for temperature (shade) modeling, HeatSource for temperature modeling, and CE-QUAL. The DMS is continuing to provide development work on "modeling tools" for the development of temperature, salinity, nutrients and sediment TMDLs.
- DMS staff participated in a DEQ Water Quality Planning Bureau and Subdivisions (Public Water & Subdivisions Bureau) committee for surface water/ ground water interactions and information needs regarding nutrient fate and transport from on-site wastewater systems.

2.5.3 Quality Assurance Program

- DMS conducted a data review and evaluation of all chemistry data collected for program-sponsored or led monitoring projects and completed the first ever Performance Evaluation Study of analytical water quality laboratories used by the bureau's programs and data partners.
- Provided on-going support, direction, and guidance for program staff, contractors, and partners in the development of Quality Assurance Project Plans, Sampling and Analysis Plans and other program process documents (e.g. Sediment Investigation Guidance Document).
- Initiated the review and revision process for the bureau's Quality Management Plan, initially approved by EPA Region VIII in June 2004.

2.6 Clean Water Act Section 319 Grants

Most of Montana's Nonpoint Source (NPS) program budget comes from the federal government. Section 319 funds pay 60 percent of project grants and DEQ's NPS program cost. During the 2006 grant cycle, DEQ received proposals totaling $1.7 million dollars. The DEQ awarded $1,358,265 to 18 watershed projects in 4 categories of Watershed Restoration, Groundwater, Information & Education, and Watershed TMDL Planning. The 319 Grants Program Tables, titled ***Fiscal Year 2006 319 Projects Fund Request*** on pages 13-15 summarizes the 2006 319-funded projects.

The NPS program strives to have contracts in place by June 1st. In 2006, this goal was not met, but all contracts were in place by June 30th, in time for obligating state contractual funds. DEQ closed out 42 319 grants in watershed restoration, groundwater and information & education and TMDL planning projects through fiscal year 2006, including the DEQ Projects Grant for 1998. Since 1995, Montana has a balance of 22% remaining of 319 funds awarded; one of the lowest balance's in the nation.

The NPS program uses the tools described below to efficiently account for funds expended and expedite payment of bills.

Attachment B:
DEQ provides NPS project sponsors with a spreadsheet-billing form called Attachment B. It is part of the contract. The Excel format reduces math errors, shows cumulative totals by project task, and organizes match reporting for contractors. In both the billing and match reporting sheets, a contract-to-date figure is displayed that shows payments made and balances remaining.

Financial Status Reports:
DEQ Financial Services completes Financial Status Reports each year. The reports provide an annual check on the total grant expenditures and match funds reported for each grant. These reports help ensure that funds are effectively tracked.

Grant Reporting and Tracking System (GRTS):
The GRTS system provides Montana with a consistent way to report on the status of nonpoint source grants. DEQ has fully trained administrative staff to input GRTS information provided by project sponsors. Montana requires that quarterly and final reports for all 319-project grants be in electronic format to facilitate data entry into GRTS. The final GRTS project reports were attached to each project evaluation prior to closing the 1998 319 Projects Grant. The Water Quality Planning Bureau Contract / Grants Officer is DEQ's NPS GRTS representative. The Contracts/Grants Officer attended the National GRTS meeting in Dallas, TX in October and the Region 8 training in Denver, CO during May of 2006.

Contract Administration Training:
DEQ in cooperation with the Big Sky Public Purchasing Association and the Montana Association of Conservation Districts offered a 3-day training titled "Unlocking the Secrets & Discovering the Keys to Successfully Navigate the World of Contracts, Grants & Procurement". Over 80 participants attended who either have current 319 contracts or are from state agencies that collaborate on watershed projects. The featured speakers were Sheryl Olson, Deputy Director for the Montana Department of Administration; Penny Moon, Senior Contracts Officer for the Montana State Procurement Bureau; Diane Tordale, Procurement Services Bureau Chief for the Montana Department of Transportation; Jim Pellegrini, Chief Performance Auditor for the Montana Legislative Auditors Office and Brett Dahl, Administrator for the Montana Risk Management & Tort Defense Division. Topics included Risk Management in Contracts, Performance Audits and Corrective Action and Contract Management.

PERFORMANCE AUDITS/ADMINISTRATIVE REVIEWS – The Contracts/Grants Officer conducted four performance audits/administrative reviews of 319 project sponsors in 2006. Initiated in 2004, this activity addresses inconsistencies identified by DEQ project officers, reporting systems, fiscal tracking and overall project management. DEQ completed the Flathead Basin Performance Audit/Administrative Review. Overall, the project sponsors view the audit/reviews favorably and 7 current grantees have requested audits. The 2006 audits involved two Non-Profit Organizations and two local government grantees. All four audits found grantees "meeting expectations" with common recommendations of improving computer and personnel back-up along with better documentation and/or establishing paper trails on projects.

Fiscal Year 2006 319 Projects Fund Request							
	Project Name	**Project Sponsor**	**319 Funds Incremental**	**319 Funds Base**	****Non-Federal Match Funds**	**Other Federal Funds**	**Total Project Cost**
	Watershed Restoration Projects						
206044	Grave Creek Restoration Phase II	Kootenai River Network	$100,000.00		$125,344.00	$200,000.00	$425,344.00
206045	Fort Peck Watershed Restoration Project Phase II	Fort Peck Water Users Association	$47,350.00		$42,646.00	$5,540.00	$95,536.00
206046	Blackfoot Restoration Monitoring & Stewardship Support	Blackfoot Challenge, Inc.	$37,800.00		$25,200.00	$24,500.00	$87,500.00
206047	Upper Lolo Creek TMDL - Granite Creek Culverts	Montana Trout	$25,000.00		$20,060.00	$21,480.00	$66,540.00
206048	Swan Watershed TMDL Implementation	Swan EcoSystem	$52,200.00		$63,760.00	$13,325.00	$129,285.00
	Groundwater Projects						
206049	MODFLOW as a predictor of Salt Flow in Groundwater	Liberty CD	$69,529.00		$47,210.00		$116,739.00

Fiscal Year 2006 319 Projects Fund Request							
	Project Name	**Project Sponsor**	**319 Funds Incremental**	**319 Funds Base**	****Non-Federal Match Funds**	**Other Federal Funds**	**Total Project Cost**
206050	2006 Ruby Groundwater / Surface Water Interaction Model	Ruby Valley CD	$73,096.00		$54,404.00		$127,500.00
	Information & Education Projects						
206051	NPS Information & Education	MSU - Montana Watercourse	$75,290.00		$50,193.00		$125,483.00
	Mini-Grants	DEQ Water Quality Planning Bureau	$20,000.00		$13,333.00		$33,333.00
	TMDL Planning Grants						
206052	Lower Blackfoot TMDL	Blackfoot Challenge, Inc.	$100,000.00		$67,000.00		$167,000.00
206053	Jefferson River Watershed	Jefferson Valley Conservation District	$108,000.00		$72,000.00		$180,000.00
206054	Upper Clark Fork (Tribs) TMDL Phase I	East Deer Lodge Valley Conservation District	$220,000.00		$424,000.00		$644,000.00

Fiscal Year 2006 319 Projects Fund Request							
	Project Name	**Project Sponsor**	**319 Funds Incremental**	**319 Funds Base**	****Non-Federal Match Funds**	**Other Federal Funds**	**Total Project Cost**
206055	Flathead Water Quality Protection	Flathead Basin Commission / Department of Natural Resources and Conservation	$19,000.00		$12,666.00		$31,666.00
206057	Bitterroot Lolo	Bitterroot Water Forum	$60,000.00		$45,000.00		$105,000.00
206056	Bitterroot River	Tri-State Water Quality Council	$24,970.00		$16,647.00		$41,617.00
206058	Upper Gallatin Watershed II	Montana State University	$33,435.00	$32,565.00	$44,000.00		$110,000.00
206059	Lower Gallatin	Greater Gallatin Watershed Council	$75,900.00		$30,000.00		$105,900.00
206060	Upper Gallatin TMDL II	Blue Water Task Force	$99,000.00		$66,000.00		$165,000.00
	DEQ Contracted Services	Montana DEQ	$85,130.00		$0.00		$85,130.00
TOTALS:			***$1,325,700.00***	***$32,565.00***	***$1,219,463.00***	***$264,845.00***	***$2,842,573.00***

PART 3: IMPLEMENTATION OF NPS PLAN OBJECTIVES

The 2001 MT Nonpoint Source Management Plan contains strategies and actions to achieve NPS management objectives via various mechanisms. Actions in 2006 have focused on support of local activities, in a comprehensive manner by collaborating both internal and externally with all stakeholders.

By the end of 2006, the following objectives of the 2001 Nonpoint Source Management Plan have been accomplished or are working towards completion:

*Work to upgrade obsolete and inefficient irrigation delivery systems. Various projects and work groups are working towards efficient irrigation mechanisms to include:

- The Water, Wastewater and Solid Action Coordinating Team (W2ASACT) use the State Revolving Fund Program as a funding source to help irrigation projects.
- DEQ provided 319 funds to study the effects of improved irrigation practices implemented by the Greenfield's Irrigation District on Freezeout Lake. This project is a collaborative effort with local, state and federal entities including FWP and NRCS.
- As identified in DEQ 319 reports, the Blackfoot Challenge and Big Blackfoot Chapter of Trout Unlimited have identified and implemented projects in the Blackfoot headwaters for grazing management and irrigation improvements.
- A portion of the 2006 Fort Peck Water User's Association (FPWUA's) 319 project, Phase II, is meant to address the water quality concerns of canal return flows to the Lower Missouri River. The FPWUA would like to minimize the quantity of irrigation return flows to the Missouri River while maximizing the quality of said return flows.
- Using DEQ 319 grants, the Pondera County Conservation District received recent funding to construct new irrigation infrastructure on the PCCRC AN-Canal System in order to prevent severe bank erosion and sedimentation affecting the Marias River and its tributaries.

* All water quality restoration plans implemented and most beneficial uses restored to rivers, lakes and streams.

- Approximately 25 TMDL plans have been completed with approximately another 25 being worked on during 2006. The Watershed Management Section is almost completely staffed and with assistance from modeling approaches, will be able to
- The Watershed Protection Section is fully staffed (4 ½ full time employees) and is available to provide technical assistance and limited funding in implementation of TMDLs.
- DEQ management has designated TMDL development as one of the department's highest priorities. Department management has directed all divisions, bureaus and sections to support and collaborate with the NPS program in developing water quality restoration plans and meeting the court-ordered schedule.
- Scoring criteria was developed for use by the Watershed Coordination Council that gives TMDL plan development and implementation highest priority for 319

grants. Through the Water Activities Work Group (WAWG), restoration, information & education and groundwater projects in areas with completed TMDL's receive the highest priority.

* A new staff position in the Monitoring and Data Management Bureau who is responsible for overall water monitoring Quality Assurance has been hired

* A new Water Quality Monitoring QA plan for the state that addresses NPS monitoring has been prepared, completed public review and is finalized and is being implemented. The document is accessed at: http://www.deq.mt.gov/wqinfo/QAProgram/WQPBQMP-001.pdf

* NPS projects updates by task to GRTS mainframe.

- When the Grant Reporting Tracking System (GRTS) database became web-based in September 2001, EPA National omitted the requirement that all projects be detailed by task level and updated semi-annually. Montana DEQ is current in all GRTS reporting requirements and has kept pace with new mandated inputs, such as the Load Estimate Reductions for all on-the-ground projects impacting Nitrogen, Phosphorus and Sediment.

* Annual checks on total grant expenditures and match funds spent.

- The Water Quality Planning Bureau has a full time Grants Coordinator whose job description includes appropriating and administering 319 funds and match to TMDL and implementation programs within the bureau.

* GRTS updates available to all NPS project contractors via web-based database

- The Grant Reporting Tracking System (GRTS) went from desktop database to web-based database in 2001. As a web-based database, Montana DEQ has offered this tool to track contacts to all project managers, both those who oversee the grants for DEQ and also for grantees and their subcontractors.

* MWCC WAWG group reviews NPS Management Plan every five years and has made recommendations on revising the 2006 NPS Management Plan.

The 2007 Nonpoint Source Management Plan will be structured differently than the current plan. The update includes objectives to reduce NPS pollution categorized to include differing types of water resources (surface water, wetlands, and groundwater) and impacts to those resources (agriculture, forestry, recreation, etc.). Each of these components has specific actions tables associated with them addressing NPS pollution. Additionally, an education and outreach strategy, targeting varying audiences (general public, professionals, educators, and internal DEQ) has been developed to bring NPS pollution to the forefront for Montanan's involvement. A five-year action plan has been included to address Montana's NPS pollution education & outreach, policy and restoration needs. The updated NPS Management Plan will provide DEQ the tool to address critical NPS issues and prioirtize 319 funding to address NPS issues throughout the state.

PART 4: COLLABORATIVE PARTNERSHIPS

The watershed planning approach provides a coordination tool for all stakeholders interested in conserving water resources in Montana, including DEQ. Through the involvement of various interagency councils, watershed groups, conservation districts, agencies, tribes, academia, etc., the watershed approach increases public understanding and involvement in water quality issues. Additionally, citizens who organize on a watershed basis to address issues such as weeds or water quantity issues often add water quality issues to their list of concerns. The following interagency councils and highlighted watershed group are just a few examples of collaborative opportunities that foster water resource awareness and protection in Montana.

4.1 Interagency Councils

4.1.1 Montana Watershed Coordination Council (MWCC)

The Montana Watershed Coordination Council is a statewide information and support network created to advance local watershed work. The coordination council serves as a forum for and link between local watershed groups that need assistance in enhancing, conserving and protecting natural resources and sustaining the high quality of life in Montana for present and future generations. It also serves as a statewide network coordinating Montana's natural resource agencies and private organizations in order to share resources, identify and capitalize on opportunities for collaboration, and avoid duplication of efforts. MWCC site: http://water.montana.edu/watersheds/default.asp

DEQ is an active participant and sponsor of the MWCC. Three committees of MWCC are chaired by DEQ employees who include the Water Activities Work Group, the Education & Outreach Work Group and the newly formed Groundwater Work Group. These and the other MWCC work groups offer forums to agencies, academia, conservation district, watershed groups and non-profit group personnel to discuss issues and offer solutions to water resource needs in Montana.

4.1.2 Montana Wetlands Council

The Montana Wetlands Council is a forum that promotes cooperative wetland resource management in Montana. Their mission is to coordinate efforts to protect, conserve, and enhance Montana wetland resources for present and future generations. They support environmentally responsible wetland resource stewardship through the cooperation of public and private interests.

In 2006, DEQ assisted the Wetlands Council towards fulfilling objectives by highlighting various wetland and riparian area conservation needs.
Areas of assistance include:

- Incorporating wetland and riparian protection in the 2006 NPS Management Plan

- DEQ personnel were instrumental in developing “Room to Roam” brochure, produced by the Governor’s Task Force for Riparian Protection http://water.montana.edu/setback
- DEQ personnel were significant in partnering Wetlands Council and MWCC to coordinate meetings and objectives
- DEQ personnel and others are developing a 10-year strategic framework for wetlands conservation and restoration in Montana

4.1.3 Montana Environmental Education Association (MEEA)

The Montana Environmental Education Association is a non-profit organization that includes a statewide network of professionals, students and volunteers. MEEA’s mission is to unite, support and inspire individuals to be stewards of nature. Because of analogous education and outreach needs, DEQ has prioritized collaborating with MEEA to reach out to teachers and students in environmental education. DEQ has continued to support MEEA though financial and technical support and can assist in partnering MEEA with other statewide councils.

4.1.4 Interagency Review Team Work Group (IRTWG)

In 2002, a Presidential Executive Order directed states to nominate transportation corridors where a process would be developed to streamline highway project permitting. Montana nominated US 93 from border to border. Unfortunately, it was soon discovered that a lot of the permitting had already occurred or was so far advanced, such that this corridor was not the place to develop a streamlining process. A section of Highway 83 in the Seeley Swan corridor was then selected and the work group, made up of representatives of the Army Corps, EPA, USFWS, USFS, FWP, Federal Highway Administration, MDT, DNRC and DEQ began to develop a process to streamline permitting, but also identify and implement more effective mitigation for aquatic and terrestrial impacts associated with highway impacts. The process is called “Integrated Transportation and Ecological Enhancements for Montana” (ITEEM). The final document was just completed and a test of the process will occur on a section of Highway 83 in the Seeley Swan in the Fall of 2007.

4.1.5 Interagency Coordination Meeting (ICM)

The group consists of Army Corps, EPA, USFWS, FWP, DNRC and DEQ. Meetings occur every 3-4 weeks to review Army Corps 404 permit applications that usually involve fairly high impact projects to the aquatic environment. Agencies provide input that will avoid or minimize impacts by suggesting specific conditions to the 404 permit when it is issued.

4.2 Success Story: Sun River Watershed

TEAMWORK accounts for the many successes in the Sun River Watershed. When the Montana Department of Environmental Quality (DEQ) began a planning effort to write the Sun River Water Quality Restoration Plan, they sought the help of the Sun River Watershed Group. This partnership produced a workable plan that the group continues to implement.

The Sun River Watershed Group uses federal 319 and local matching funds to provide environmental information and local input for the plan. The plan not only fulfills DEQ's responsibilities under the Clean Water Act and Montana Water Quality Act, it also provides a useful document to guide voluntary activities by local groups to improve water quality. To date, the Sun River Watershed Group and the Muddy Creek Task Force coordinate various restoration projects.

From 1994-2006, The Sun River Watershed Group has received $623,430 in 319 funding, $2,484,926 in Non-Federal funding and $1,988,793 in Federal funding for a total of $5,097,149 in implementation projects towards recovery of the Sun River and its tributaries. 34 local, state and federal partners assist in this recovery effort.

For 15 years, this partnership of committed groups and individuals has worked to restore Muddy Creek by incorporating both acquired professional methods and through good, hard work. Irrigation water management, riparian management, and stream channel work continue to significantly improve water quality indicated by results of these projects. Cost effective approaches are being evaluated to return Muddy Creek to water quality standards.

The Greenfields Irrigation District is working to reduce erosion-causing peak flows to Muddy Creek. Currently, a large "re-regulation reservoir" is being completed to reduce large surges of water into Muddy Creek. Nutrient management planning will assist in reducing future nutrient loading. Additional assistance comes from the Conservation Reserve Program, which should be effective in reducing salinity and selenium by converting lands that are dry land cropped and contribute to saline seep with rangelands.

In 2005, the Sun River Watershed Group was awarded a 319 grant to work on another tributary with a major erosion problem. To date they have: 1) improved uplands and riparian areas through installation of fencing to control grazing - benefiting 640 acres

and 10,400 feet of streambanks, 2) located streambank sites and started preparation work to re-vegetate areas in Spring 2007, 3) monitored flow and sediment at eleven sites to prioritize the reclamation sites, 4) began investigating saline seep ground water to reduce saline components within Big Coulee, 5) monitored nutrients, salinity levels and temperature at mouth of Big Coulee, 6) monitored water quality up and down stream of Big Coulee to gauge water quality contributions/conditions of the Sun River; 7) irrigation water management with Greenfields Irrigation District and Broken O Ranch on two major canals effecting 1,000 acres, and 8) conducted landowner/partner meetings to review results of each field season.

Federal Agencies continue their efforts to support the restoration of the Sun River Watershed. The Forest Service is addressing the National Forest lands that drain water and sediment to Gibson Reservoir with a special designation, improvements to its trail system, and a series of controlled burns in the South Fork of Sun River to reduce the chance for larger and more intense fires. The Bureau of Reclamation and stockmen will address range health around Willow Creek Reservoir and Ford Creek. The Willow Creek Feeder Canal System contributes significant amount of sediment to the reservoir. A working partnership of the Lewis & Clark Conservation District, Bureau of Reclamation, Greenfields Irrigation District, Montana Fish, Wildlife & Parks, local landowners and many others have begun an erosion control program.

Recently, the Sun River Watershed Group received a $10,000 Five Star Restoration Challenge Grant from the National Association of Counties as well as funds and in-kind support from multiple partners. Projects funded through this support will feature a cooperative effort between local government agencies, elected officials, community groups, businesses, schools, and environmental organizations. The goal is to improve local water quality and restore important fish and wildlife habitats.

To date, the Sun River Watershed Group has restored three miles of riparian area by removing more than 260 car bodies, 40,000 pounds of trash, replacing with erosion matting on the raw banks, and planting 2,000 willow and cottonwood trees. These current projects are being evaluated for actual sediment reduction and water quality improvements.

PART 5: REFERENCES

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